FIG.1

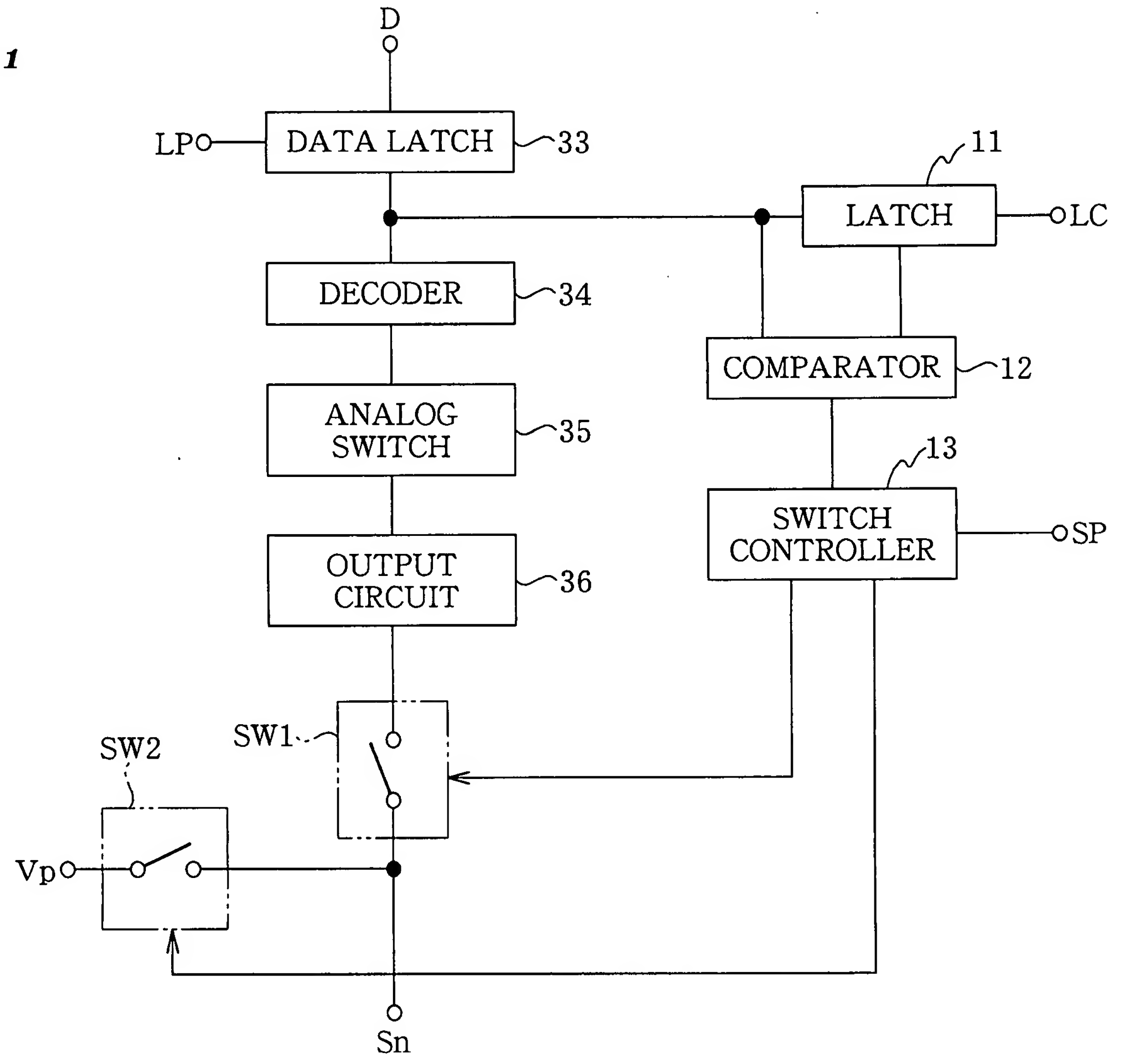

D
LP
DATA LATCH
33
11
LATCH
LC
DECODER
34
COMPARATOR
12
ANALOG SWITCH
35
13
SWITCH CONTROLLER
SP
OUTPUT CIRCUIT
36
SW1
SW2
Vp
Sn

FIG.2

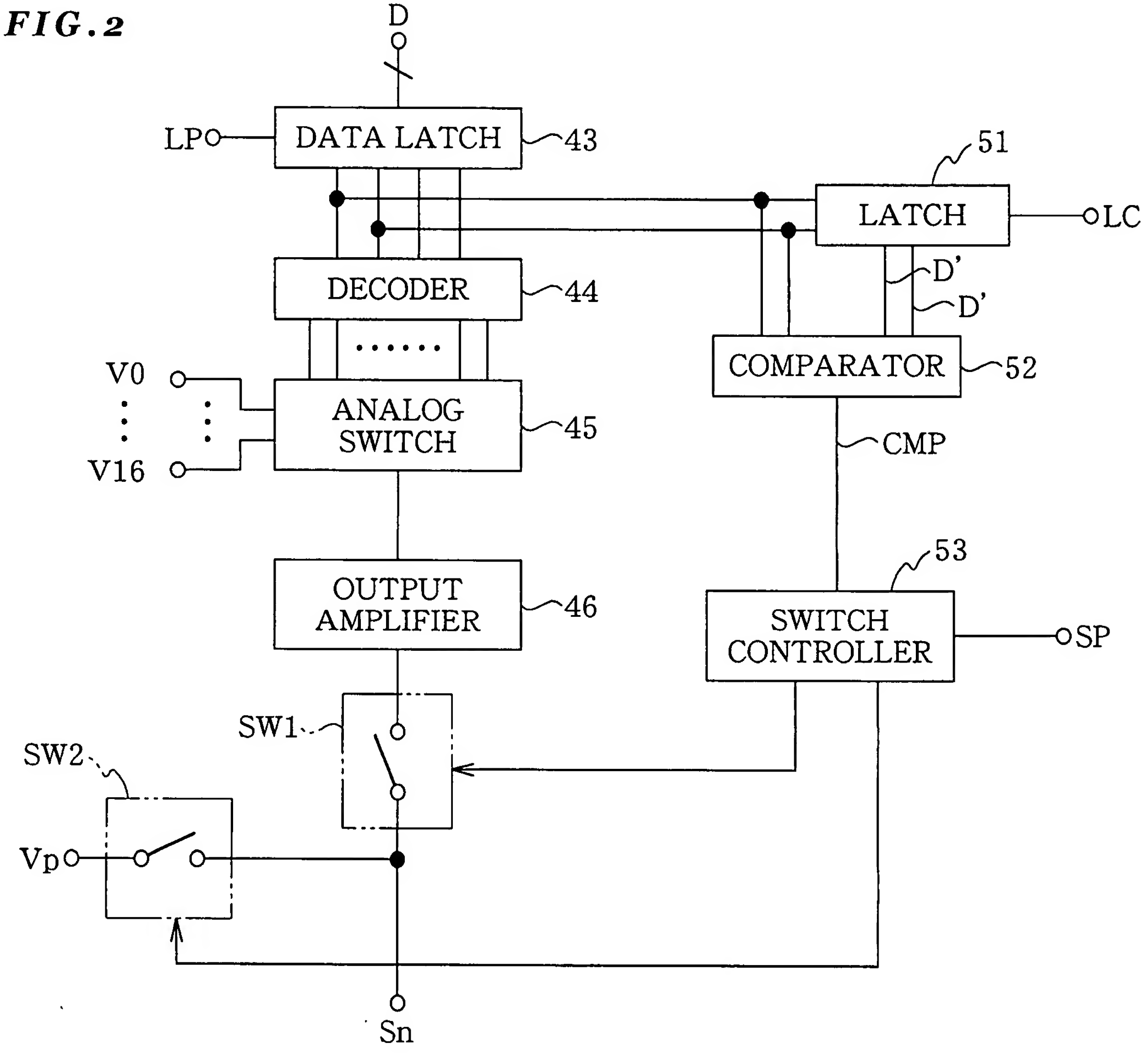

D
LP
DATA LATCH
43
51
LATCH
LC
DECODER
44
D'
D'
COMPARATOR
52
V0
V16
ANALOG SWITCH
45
CMP
53
OUTPUT AMPLIFIER
46
SWITCH CONTROLLER
SP
SW1
SW2
Vp
Sn

FIG.3

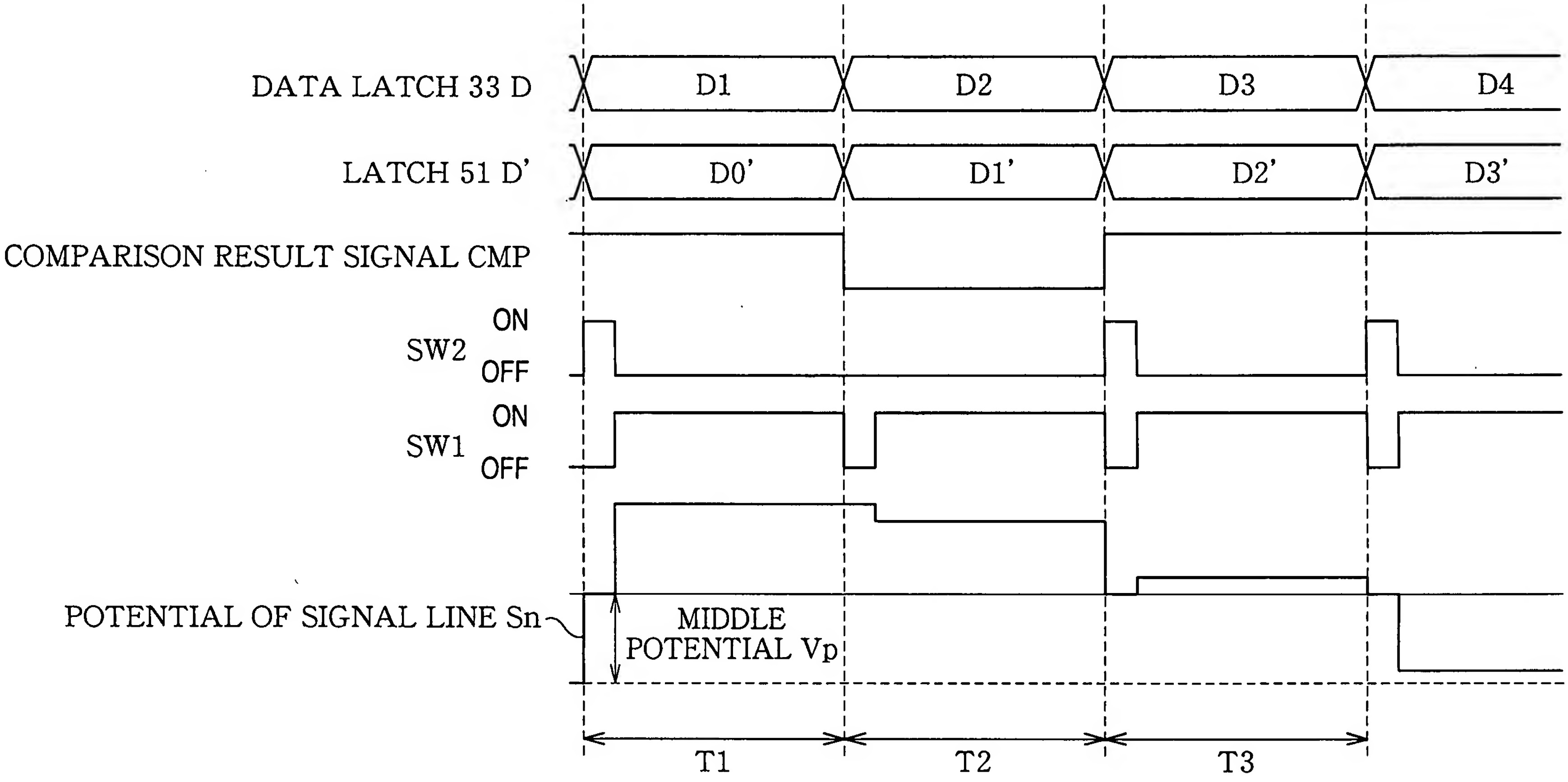

DATA LATCH 33 D
D1
D2
D3
D4
LATCH 51 D'
D0'
D1'
D2'
D3'
COMPARISON RESULT SIGNAL CMP
SW2
ON
OFF
SW1
ON
OFF
POTENTIAL OF SIGNAL LINE Sn
MIDDLE POTENTIAL Vp
T1
T2
T3

FIG.4

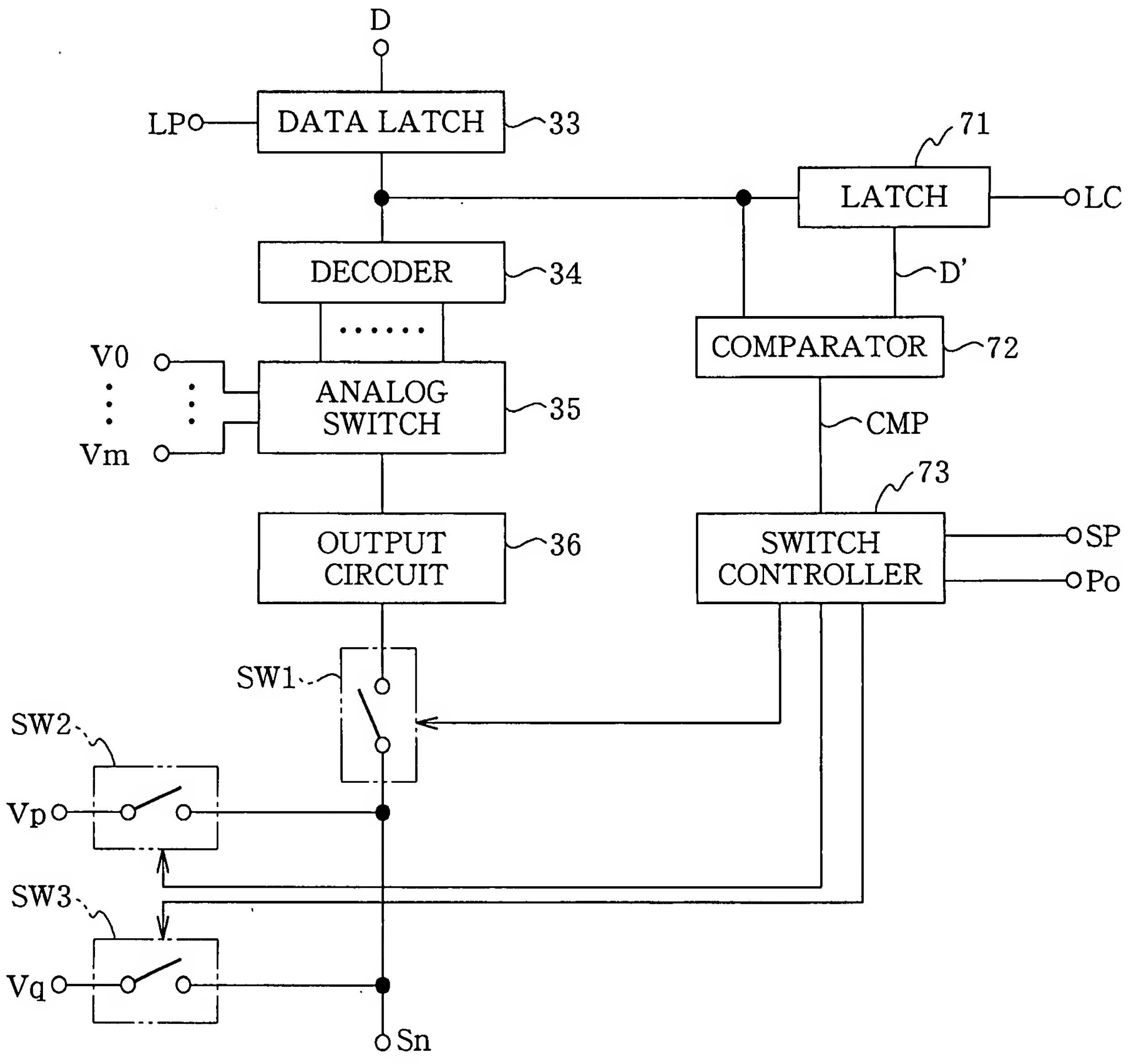

D
LP
DATA LATCH
33
71
LATCH
LC
DECODER
34
D'
COMPARATOR
72
V0
Vm
ANALOG SWITCH
35
CMP
73
OUTPUT CIRCUIT
36
SWITCH CONTROLLER
SP
Po
SW1
SW2
Vp
SW3
Vq
Sn

FIG.5

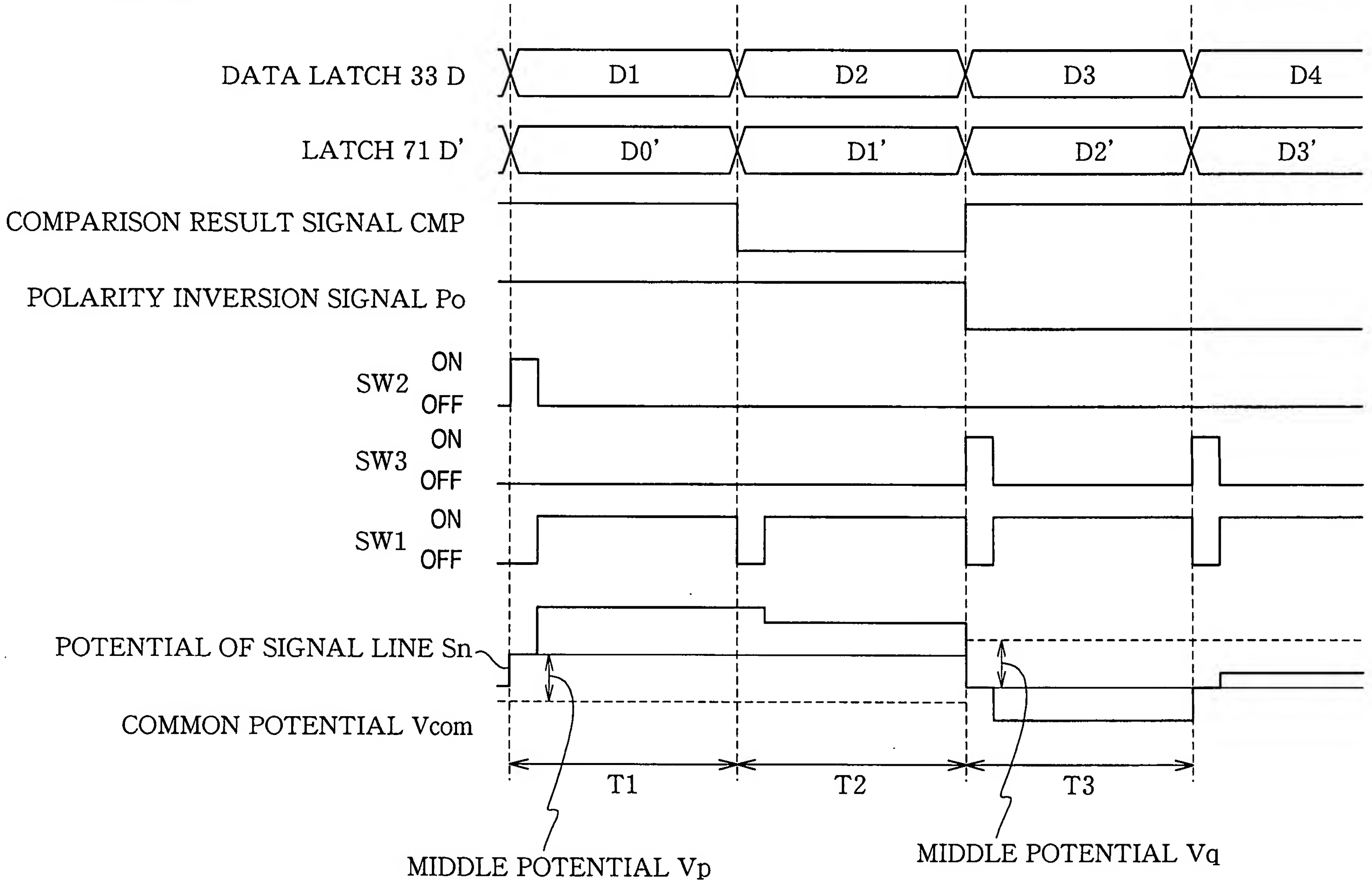

DATA LATCH 33 D
D1
D2
D3
D4
LATCH 71 D'
D0'
D1'
D2'
D3'
COMPARISON RESULT SIGNAL CMP
POLARITY INVERSION SIGNAL Po
SW2
ON
OFF
SW3
ON
OFF
SW1
ON
OFF
POTENTIAL OF SIGNAL LINE Sn
COMMON POTENTIAL Vcom
T1
T2
T3
MIDDLE POTENTIAL Vp
MIDDLE POTENTIAL Vq

FIG.6

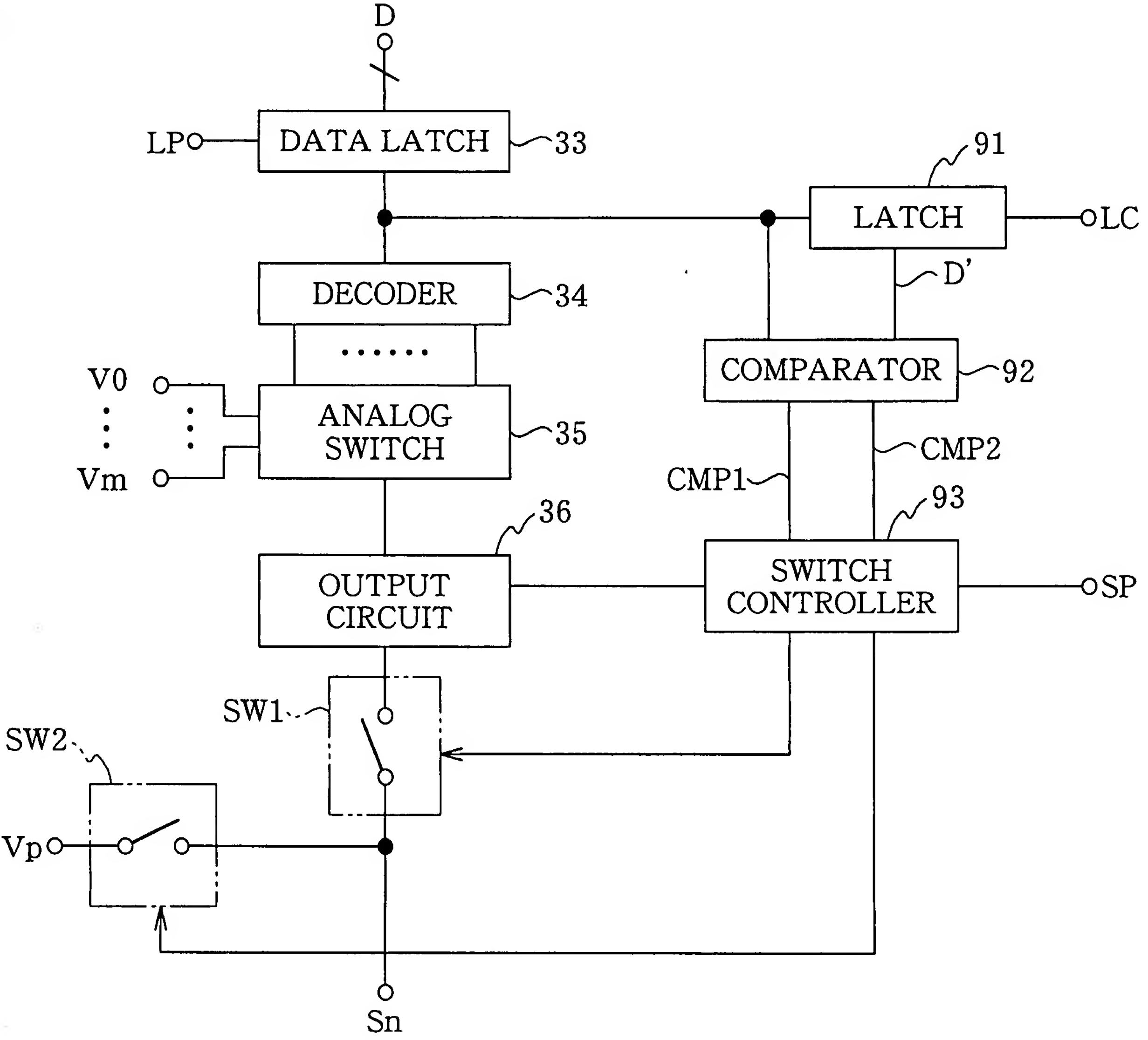

D
DATA LATCH
33
LP
LATCH
91
LC
D'
DECODER
34
COMPARATOR
92
V0
Vm
ANALOG SWITCH
35
CMP1
CMP2
93
36
OUTPUT CIRCUIT
SWITCH CONTROLLER
SP
SW1
SW2
Vp
Sn

FIG.7

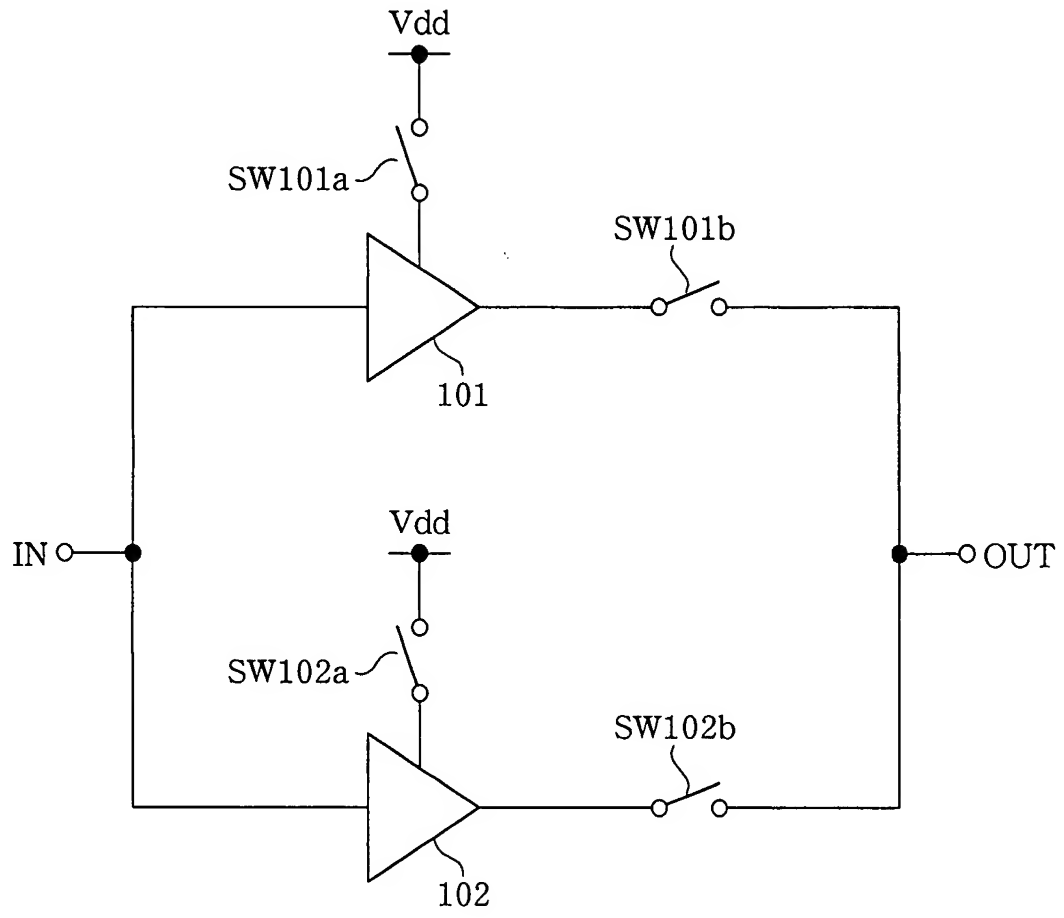


FIG.8

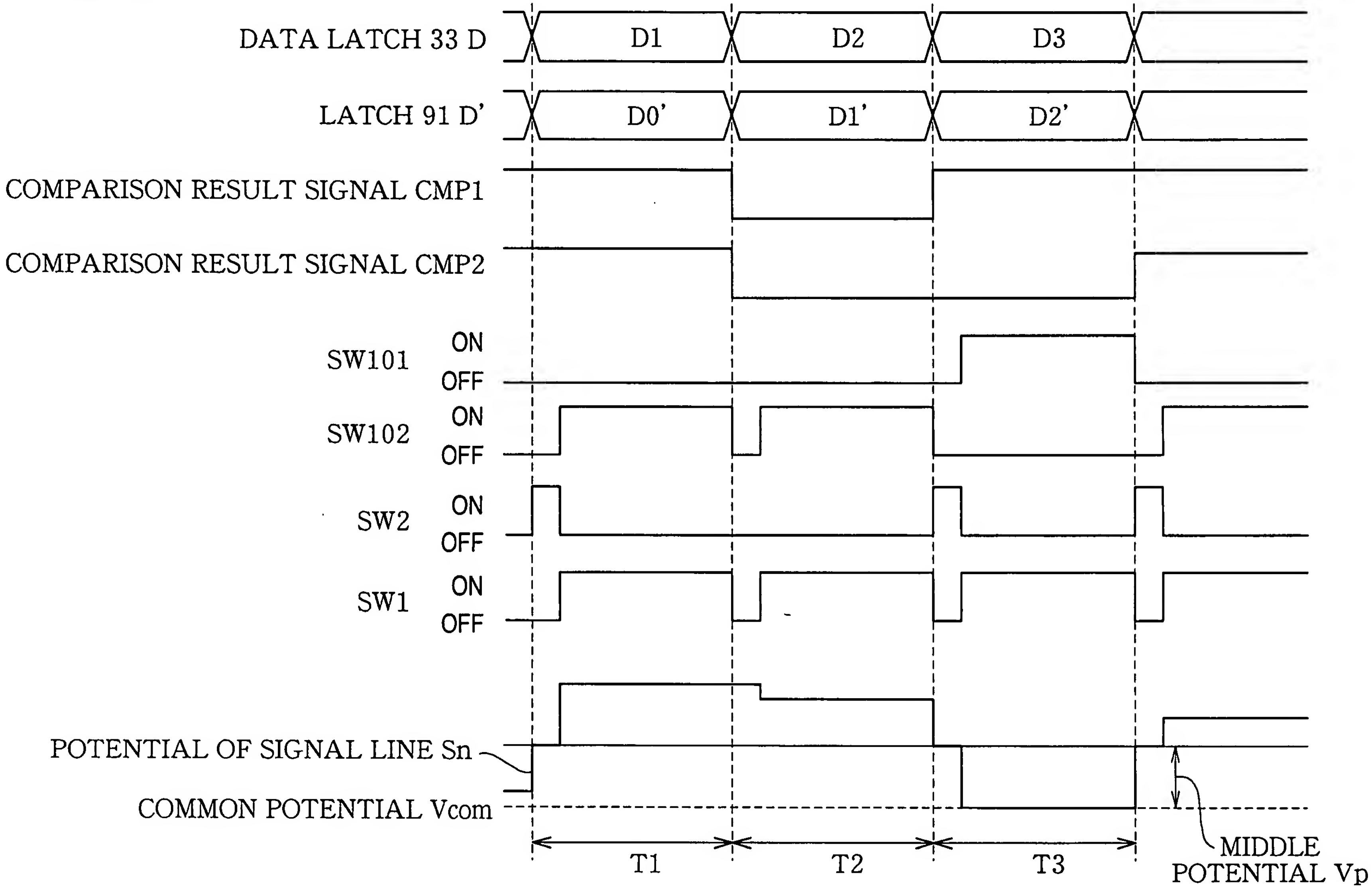

DATA LATCH 33 D
D1
D2
D3
LATCH 91 D'
D0'
D1'
D2'
COMPARISON RESULT SIGNAL CMP1
COMPARISON RESULT SIGNAL CMP2
SW101
SW102
SW2
SW1
ON
OFF
POTENTIAL OF SIGNAL LINE Sn
COMMON POTENTIAL Vcom
MIDDLE POTENTIAL Vp
T1
T2
T3

FIG.9

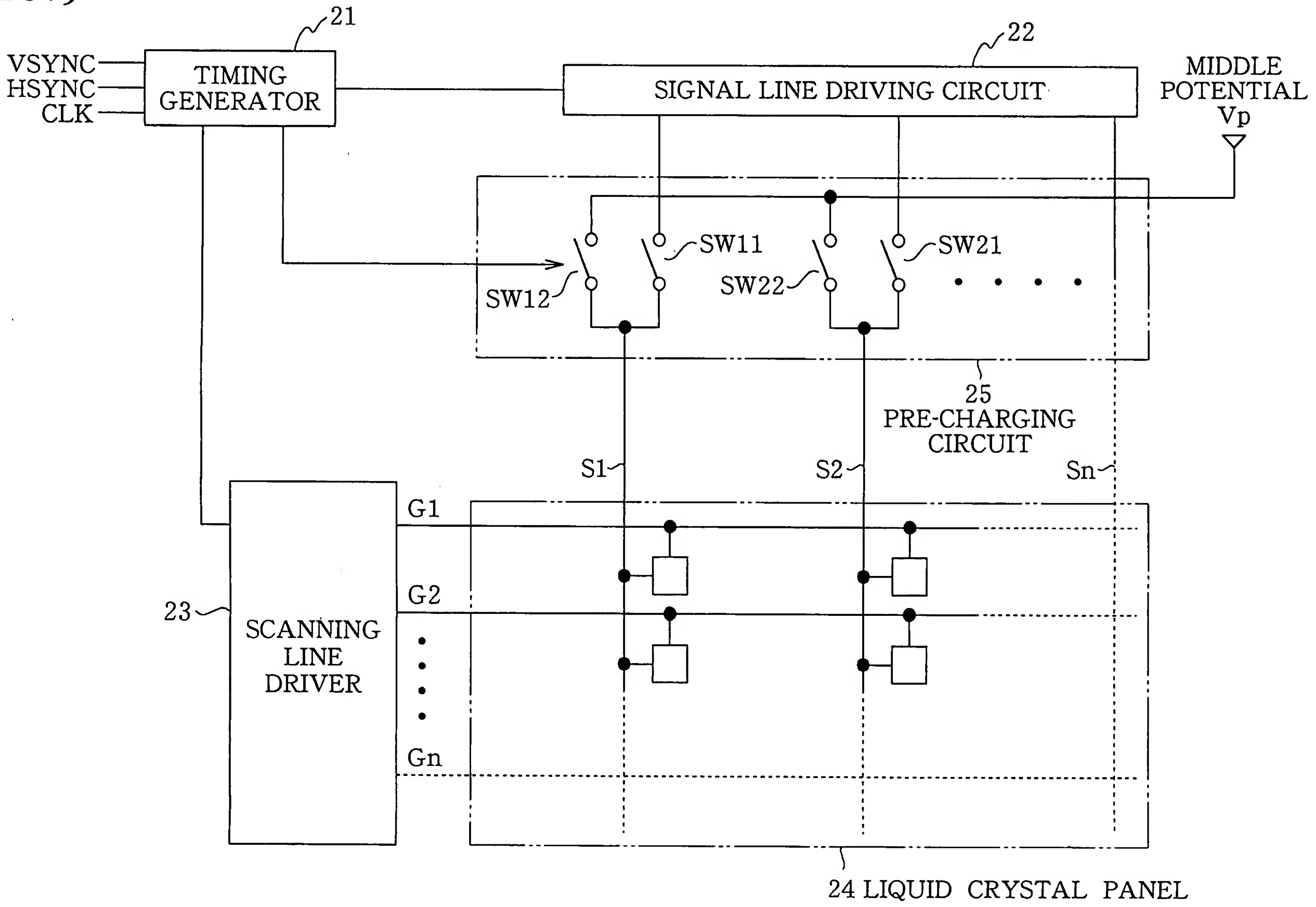

VSYNC
HSYNC
CLK
TIMING GENERATOR
21
22
SIGNAL LINE DRIVING CIRCUIT
MIDDLE POTENTIAL Vp
SW11
SW21
SW12
SW22
25
PRE-CHARGING CIRCUIT
S1
S2
Sn
G1
G2
Gn
23
SCANNING LINE DRIVER
24 LIQUID CRYSTAL PANEL

FIG.10

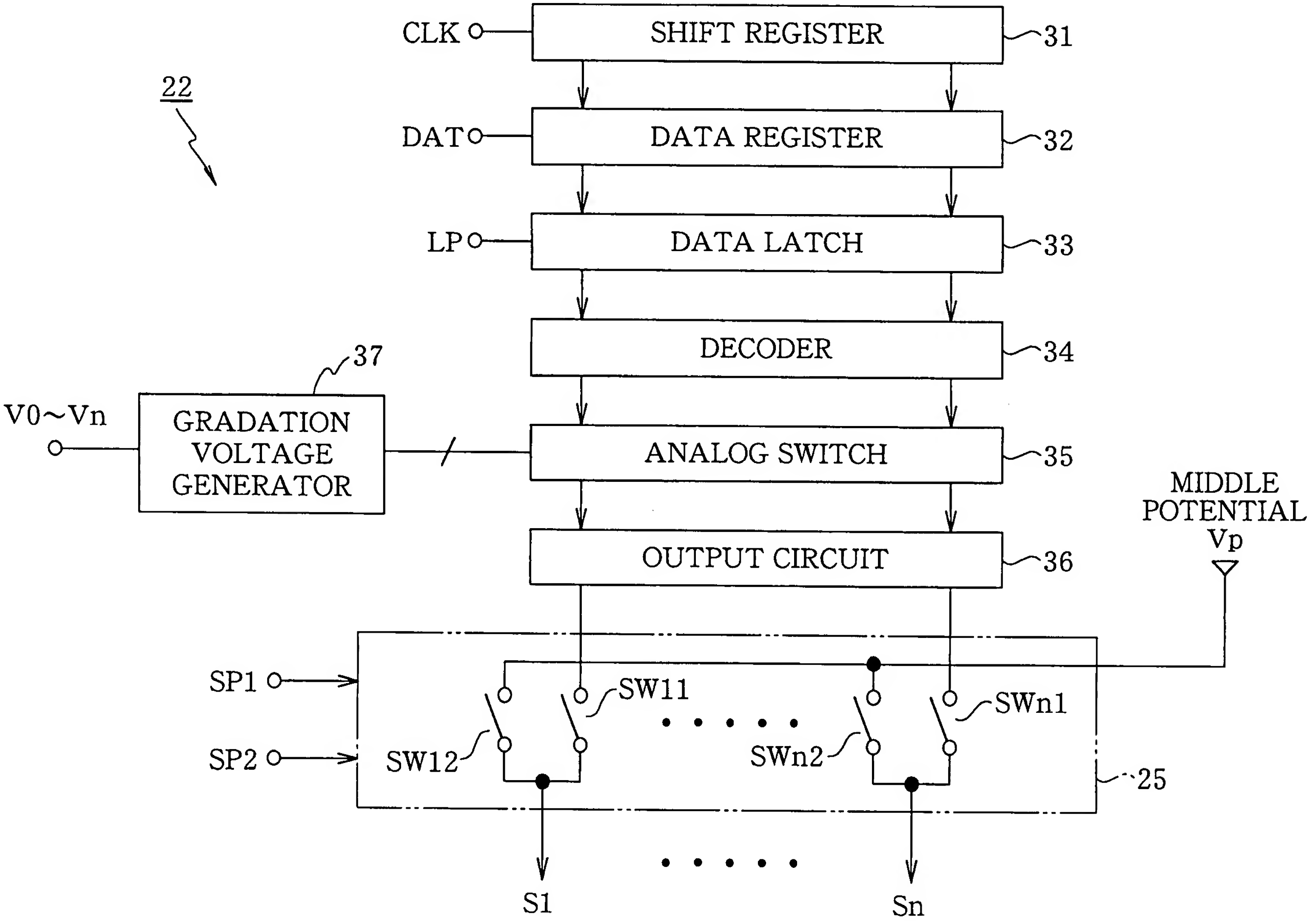
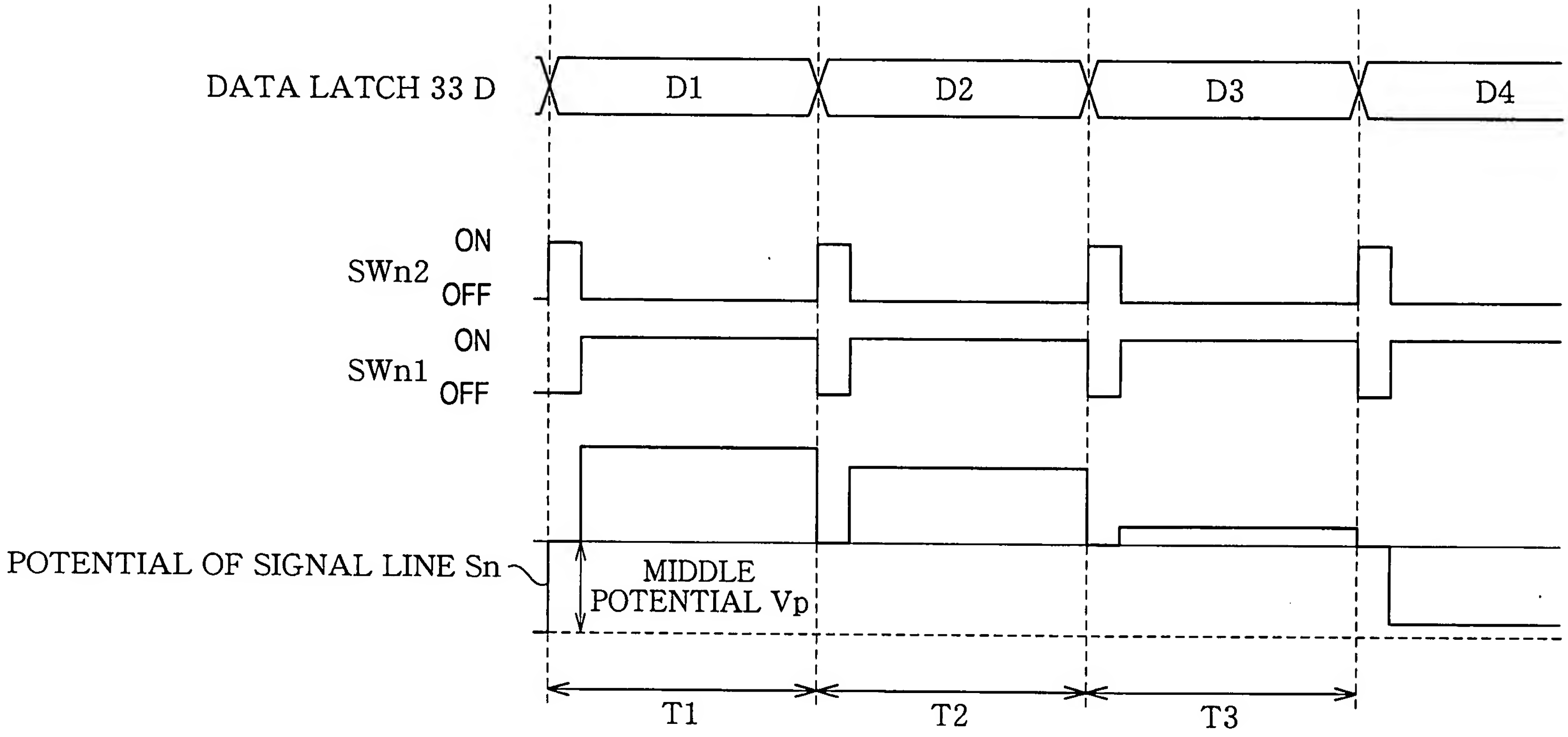

22
CLK
DAT
LP
SHIFT REGISTER
31
DATA REGISTER
32
DATA LATCH
33
DECODER
34
37
V0~Vn
GRADATION VOLTAGE GENERATOR
ANALOG SWITCH
35
MIDDLE POTENTIAL Vp
OUTPUT CIRCUIT
36
SP1
SP2
SW11
SW12
SWn1
SWn2
25
S1
Sn

FIG.11


DATA LATCH 33 D
D1
D2
D3
D4
SWn2
ON
OFF
SWn1
ON
OFF
POTENTIAL OF SIGNAL LINE Sn
MIDDLE
POTENTIAL Vp
T1
T2
T3